=> file reg
FILE 'REGISTRY' ENTERED AT 09:23:01 ON 04 MAR 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

STRUCTURE FILE UPDATES: 1 MAR 2002 HIGHEST RN 397841-87-1
DICTIONARY FILE UPDATES: 1 MAR 2002 HIGHEST RN 397841-87-1

TSCA INFORMATION NOW CURRENT THROUGH July 7, 2001

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Calculated physical property data is now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

The P indicator for Preparations was not generated for all of the CAS Registry Numbers that were added to the H/Z/CA/CAplus files between 12/27/01 and 1/23/02. Use of the P indicator in online and SDI searches during this period, either directly appended to a CAS Registry Number or by qualifying an L-number with /P, may have yielded incomplete results. As of 1/23/02, the situation has been resolved. Also, note that searches conducted using the PREP role indicator were not affected.

Customers running searches and/or SDIs in the H/Z/CA/CAplus files incorporating CAS Registry Numbers with the P indicator between 12/27/01 and 1/23/02, are encouraged to re-run these strategies. Contact the CAS Help Desk at 1-800-848-6533 in North America or 1-614-447-3698, worldwide, or send an e-mail to help@cas.org for further assistance or to receive a credit for any duplicate searches.

=> file hcaplus
FILE 'HCAPLUS' ENTERED AT 09:23:09 ON 04 MAR 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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FILE COVERS 1907 - 4 Mar 2002 VOL 136 ISS 10
FILE LAST UPDATED: 3 Mar 2002 (20020303/ED)

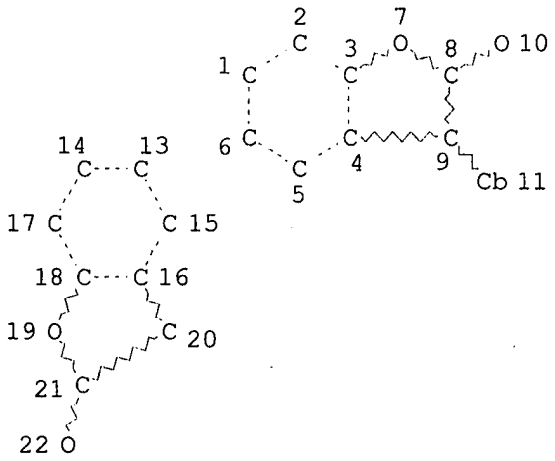
This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please

check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

The P indicator for Preparations was not generated for all of the CAS Registry Numbers that were added to the CAS files between 12/27/01 and 1/23/02. As of 1/23/02, the situation has been resolved. Searches and/or SDIs in the H/Z/CA/CAplus files incorporating CAS Registry Numbers with the P indicator executed between 12/27/01 and 1/23/02 may be incomplete. See the NEWS message on this topic for more information.

=> d que
L8 STR



75 structures from this query

NODE ATTRIBUTES:
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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE
L10 75 SEA FILE=REGISTRY SSS FUL L8
L11 25 SEA FILE=HCAPLUS ABB=ON L10
L12 2 SEA FILE=HCAPLUS ABB=ON L11 AND PHOTOGR?/SC,SX

2 Ca references for photographic use

=> d l12 all 1-2 hitstr

L12 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:278181 HCAPLUS
DN 132:315779
TI Color photographic material
IN Jeganathan, Suruliappa Gowper; Biry, Stephane; Nesvadba, Peter; Leppard, David George
PA Ciba Specialty Chemicals Holding Inc., Switz.
SO PCT Int. Appl., 78 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM G03C007-392
ICS C07D307-83; C08K005-15

x applicants

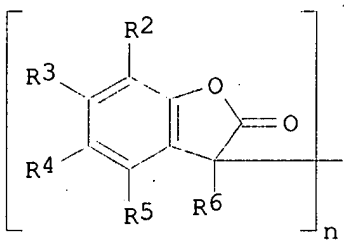
CC 74-2 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000023849	A1	20000427	WO 1999-EP7616	19991011
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	GB 2343007	A1	20000426	GB 1999-23655	19991007
	GB 2343007	B2	20011107		
	AU 9963380	A1	20000508	AU 1999-63380	19991011
	EP 1131674	A1	20010912	EP 1999-950701	19991011
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
PRAI	EP 1998-811035	A	19981019		
	EP 1999-810514	A	19990611		
	EP 1999-810612	A	19990709		
	WO 1999-EP7616	W	19991011		

OS MARPAT 132:315779

GI



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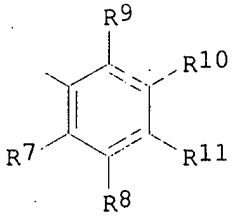


II

AB A color photog. material is described contg. a compd. of formula I wherein, if n = 1, R1 = a radical of formula II wherein R7-11 = H, halogen, hydroxy, alkyl, alkoxy, alkylthio, alkenyl, alkenyloxy, alkynyl, alkynyloxy, phenylalkyl, phenylalkoxy, cycloalkyl, cycloalkoxy, alkylamnio, dialkylamino, alkanoyl, etc. and, if n = 2, R1 is unsubstituted or C1-4 alkyl- or hydroxy-substituted phenylene or naphthylene; R2-5 = H, Cl, OH, alkyl, Ph, alkylphenyl, alkylcycloalkyl, alkoxy, alkylthio, alkylamino, dialkylamino, alkanoyloxy, etc.; R6 = H, alkyl, or alkenyl. The compd. of formula I is effective as a scavenger for an oxidized developer, esp. when contained in an interlayer between light-sensitive photog. emulsion layers.

ST benzofuranone deriv scavenger oxidized photog developer

IT Photographic developers
(color photog. materials with interlayers contg. benzofuranone derivs. as scavengers for oxidized)

IT Photographic emulsions
(color; contg. benzofuranone derivs. as scavengers for oxidized photog developers in interlayers)

IT 221318-64-5P 265096-66-0P 265096-68-2P 265096-70-6P 265096-72-8P

265096-74-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and reaction in synthesis of benzofuranone deriv. as scavenger for oxidized photog. developers)

IT 90-64-2, Mandelic acid 95-47-6, o-Xylene, reactions 98-06-6, tert-Butylbenzene 98-82-8, Cumene 106-42-3, p-Xylene, reactions 115-77-5, reactions 298-12-4, Glyoxylic acid 629-11-8, 1,6-Hexanediol 3279-20-7, 2,6-Di-tert-pentylphenol 25155-15-1, Cymene 36837-50-0 92597-21-2 107551-67-7 265096-67-1 265096-69-3 265096-71-7 265096-73-9 265096-75-1
RL: RCT (Reactant)
(reaction in synthesis of benzofuranone deriv. as scavenger for oxidized photog. developers)

IT 66737-86-8 75846-36-5 75869-38-4 **145130-80-9** 147273-35-6 150046-35-8 155794-45-9 155810-87-0 155811-18-0 164391-50-8 164391-51-9 164391-52-0 164391-55-3 164391-56-4 164391-58-6 164391-63-3 232260-32-1 265096-53-5 265096-54-6 265096-55-7 265096-56-8
RL: TEM (Technical or engineered material use); USES (Uses)
(scavenger for oxidized photog. developers in interlayers of color photog. materials)

IT **265096-57-9P** 265096-58-0P 265096-59-1P 265096-60-4P 265096-61-5P **265096-62-6P** 265096-63-7P 265096-64-8P **265096-65-9P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(synthesis and use as scavenger for oxidized photog. developers in interlayers of color photog. materials)

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD

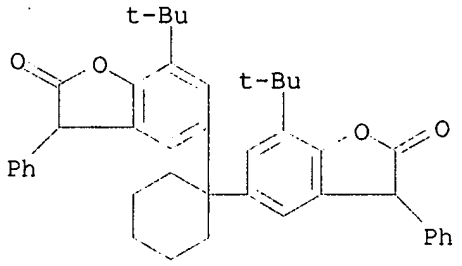
RE

(1) AGFA-GEVAERT; EP 0871066 A 1998 HCAPLUS
(2) CIBA; DE 19728214 A 1998 HCAPLUS
(3) CIBA; GB 2322374 A 1998 HCAPLUS
(4) CIBA; GB 2322861 A 1998 HCAPLUS
(5) CIBA-GEIGY; US 5607624 A HCAPLUS
(6) CIBA-GEIGY; US 5814692 A HCAPLUS
(7) CIBA-GEIGY; GB 2267088 A 1993 HCAPLUS
(8) CIBA-GEIGY; GB 2267490 A 1993 HCAPLUS
(9) CIBA-GEIGY; GB 2267491 A 1993 HCAPLUS
(10) CIBA-GEIGY; EP 0591102 A 1994 HCAPLUS
(11) CIBA-GEIGY; EP 0648765 A 1995 HCAPLUS
(12) CIBA-GEIGY; GB 2281910 A 1995 HCAPLUS
(13) CIBA-GEIGY; EP 0711804 A 1996 HCAPLUS
(14) CIBA-GEIGY; GB 2294043 A 1996 HCAPLUS
(15) Sandoz; US 4611016 A HCAPLUS
(16) Sandoz; WO 8001566 A 1980

IT **145130-80-9**
RL: TEM (Technical or engineered material use); USES (Uses)
(scavenger for oxidized photog. developers in interlayers of color photog. materials)

RN 145130-80-9 HCAPLUS

CN 2(3H)-Benzofuranone, 5,5'-cyclohexylidenebis[7-(1,1-dimethylethyl)-3-phenyl- (9CI) (CA INDEX NAME)

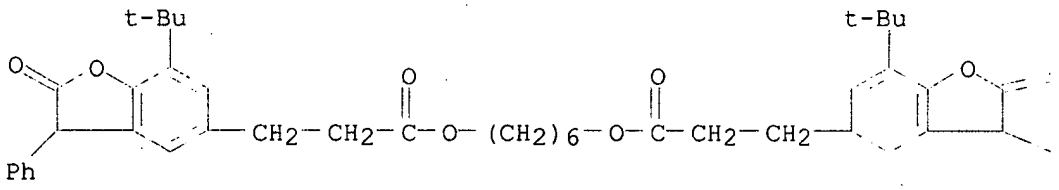


IT **265096-57-9P 265096-62-6P 265096-65-9P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(synthesis and use as scavenger for oxidized photog. developers in interlayers of color photog. materials)

RN 265096-57-9 HCAPLUS

CN 5-Benzofuranpropanoic acid, 7-(1,1-dimethylethyl)-2,3-dihydro-2-oxo-3-phenyl-, 1,6-hexanediyl ester (9CI) (CA INDEX NAME)

PAGE 1-A

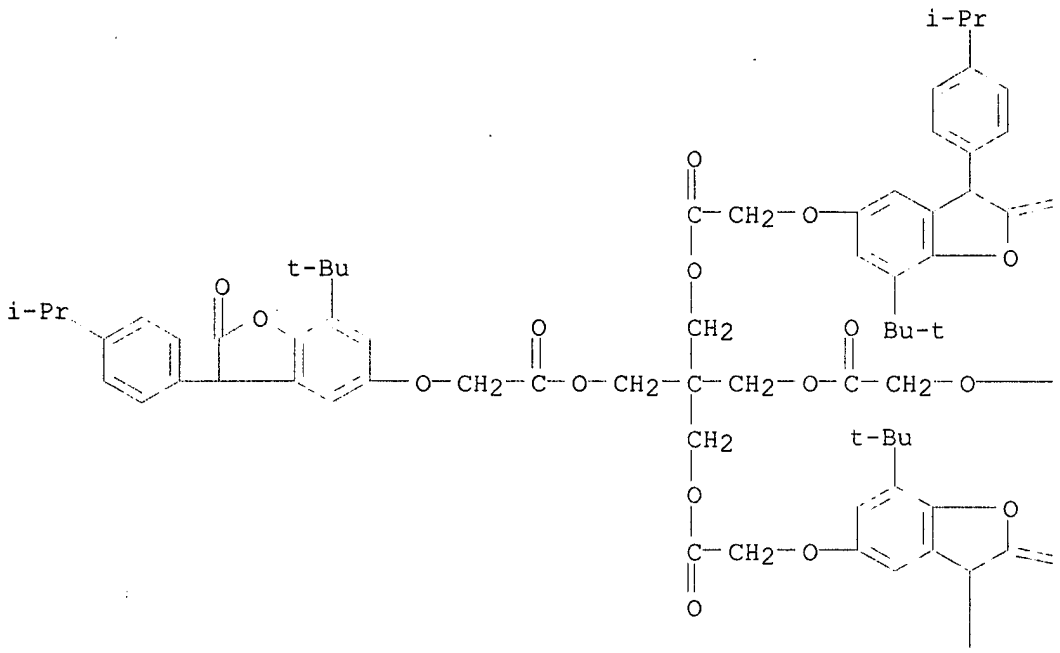


PAGE 1-B

RN 265096-62-6 HCAPLUS

CN Acetic acid, [[7-(1,1-dimethylethyl)-2,3-dihydro-3-[4-(1-methylethyl)phenyl]-2-oxo-5-benzofuranyl]oxy]-, 2,2-bis[[[[7-(1,1-dimethylethyl)-2,3-dihydro-3-[4-(1-methylethyl)phenyl]-2-oxo-5-benzofuranyl]oxy]acetyl]oxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



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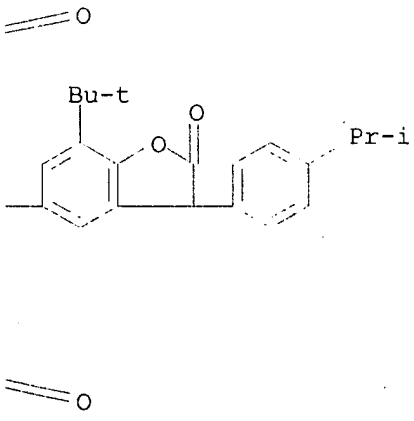

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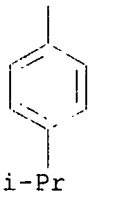
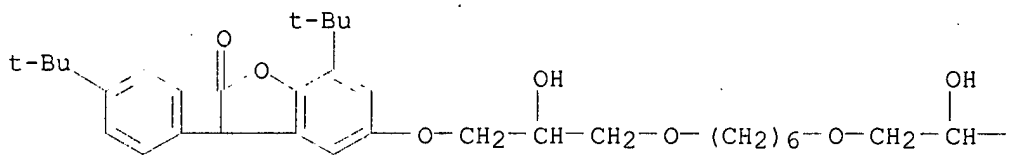
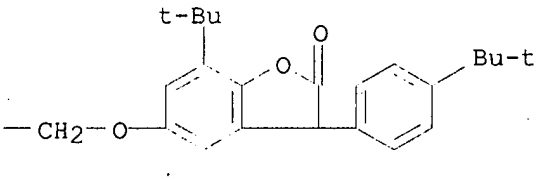


RN 265096-65-9 HCAPLUS
CN 2(3H)-Benzofuranone, 5,5'-[1,6-hexanediylbis[oxy(2-hydroxy-3,1-propanediyl)oxy]]bis[7-(1,1-dimethylethyl)-3-[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L12 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2002 ACS
AN 1994:557632 HCAPLUS
DN 121:157632
TI Benzofuranone and benzodifurantrione derivatives and process for the preparation of benzodifuranones
IN Hughes, Nigel; Newton, David Francis; Milner, David John; Deboos, Gareth Andrew
PA Zeneca Ltd., UK
SO PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07D493-04
ICS C07D307-83
ICA C07D493-04
ICI C07D307-00
CC 28-2 (Heterocyclic Compounds (More Than One Hetero Atom))
Section cross-reference(s): **41**
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9412501	A1	19940609	WO 1993-GB2318	19931111
	W: JP, KR, US				

KATHLEEN FULLER EIC 1700/LAW LIBRARY 308-4290

	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	TW 442487	B	20010623	TW 1993-82109395	19931109
	EP 669922	A1	19950906	EP 1993-924741	19931111
	EP 669922	B1	19970820		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	JP 08510441	T2	19961105	JP 1994-512873	19931111
	JP 3187837	B2	20010716		
	ES 2105346	T3	19971016	ES 1993-924741	19931111
	US 5625080	A	19970429	US 1995-446638	19950525
	US 5717112	A	19980210	US 1996-764755	19961212
PRAI	GB 1992-24647	A	19921125		
	GB 1992-24649	A	19921125		
	GB 1993-1422	A	19930125		
	GB 1993-22826	A	19931105		
	WO 1993-GB2318	W	19931111		
	US 1995-446638	A3	19950525		

OS CASREACT 121:157632; MARPAT 121:157632
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Claims include benzodifurantriones I [W = (un)substituted aryl], their intermediates II [X = halo, alkoxy, OH, NH2, (di)alkylamino], derived compds. III [R3 = H, COR2, SO2R2; R2 = alkyl, cycloalkyl, aryl, or aralkyl; R4 = CO2R2, CONRR1, CO2H or salts, COX2; R, R1 = H, alkyl, cycloalkyl, aryl or aralkyl; X2 = halo], and processes for prepg. I from hydroxydihydrobenzofuran derivs. IV, directly or via II, for prepg. III from I, and for conversion of either I or III into benzodifurandiones V [Y = electron-rich activating group; optionally addnl. substituents]. I, II, and III are useful as intermediates for dyes, agrochems., and pharmaceuticals, and V may be used as dyes (no data). Examples (32) cover prepns. and interconversions of numerous compds. I-III and V. For instance, reaction of IV (W = Ph) with oxalyl chloride and DMAP in refluxing CH2Cl2, followed by addn. of Et3N and further refluxing, gave 94.6% I (W = Ph). Alternatively, use of pyridine instead of DMAP led to isolation of the intermediate chloride ester II (W = Ph, X = Cl), which was esterified with PhOH to give 89% II (W = Ph, X = OPh). Cyclization of this with Et3N in CH2Cl2 also gave I (W = Ph). The latter then reacted with various elec. activated aroms., such as PhNHEt in refluxing AcOH-H2SO4, to give a variety of V (W = Ph, e.g. Y = NHEt) in 35-100% yield. I (W = Ph) also underwent hydrolysis by dil. NaOH to give III (W = Ph, R3 = H, R4 = CO2H), which reacted with PhOH and p-MeC6H4SO3H in refluxing 1,2-C6H4Cl2 to give V (W = Ph, Y = OH).

ST benzodifurantrione prepn intermediate dye drug agrochem; benzofuranone prepn intermediate dye drug agrochem; benzodifurandione prepn dye

IT Dyes
(benzodifurandiones, prepn. of)

IT Dyes
(intermediates, benzodifurantriones and related compds., prepn. of)

IT 609-09-6, Ethyl oxomalonate
RL: RCT (Reactant)
(alkylation by, of p-xylene)

IT 106-42-3, p-Xylene, reactions
RL: RCT (Reactant)
(alkylation of, by Et oxomalonate)

IT 91-66-7, N,N-Diethylaniline 95-48-7, o-Cresol, reactions 100-66-3, Methoxybenzene, reactions 103-69-5, N-Ethylaniline 106-44-5, p-Cresol,

reactions 578-54-1, 2-Ethylaniline 622-85-5, Propoxybenzene
5405-13-0, N-Benzyl-o-toluidine 24549-06-2, 2-Ethyl-6-methylaniline
RL: RCT (Reactant)
(condensation of, with benzodifurantriones)

IT 123-31-9, 1,4-Benzenediol, reactions
RL: RCT (Reactant)
(cyclocondensation of, with dimethylmandelic acid)

IT 79694-18-1 100304-39-0 105175-40-4 120617-95-0 146509-89-9
155811-47-5 157462-46-9 157462-51-6
RL: RCT (Reactant)
(cyclocondensation of, with oxalyl chloride)

IT 100-02-7, p-Nitrophenol, reactions 576-26-1
RL: RCT (Reactant)
(esterification of, with chlorooxalate deriv.)

IT 108-95-2, Phenol, reactions
RL: RCT (Reactant)
(esterification of, with chlorooxalate deriv., or condensation with benzodifurantriones)

IT 79-37-8, Oxalyl chloride
RL: RCT (Reactant)
(esterification or cyclocondensation of, with hydroxydihydrobenzofuran derivs.)

IT 29001-15-8, 5-Hydroxy-2-oxo-3-phenyl-2,3-dihydrobenzofuran
RL: RCT (Reactant)
(esterification or cyclocondensation of, with oxalyl chloride or bromide)

IT 15219-34-8, Oxalyl bromide
RL: RCT (Reactant)
(or cyclocondensation of, with hydroxydihydrobenzofuran derivs.)

IT 157462-45-8P 157462-48-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and condensation of, with phenol)

IT 157462-54-9P 157462-55-0P 157462-56-1P **157462-57-2P**
157462-59-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and cyclization of)

IT 5766-40-5P, 2,5-Dimethylmandelic acid
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and cyclocondensation of, with hydroquinone)

IT 157462-63-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and cyclocondensation of, with phenol)

IT 157462-58-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and esterification of, with oxalyl chloride)

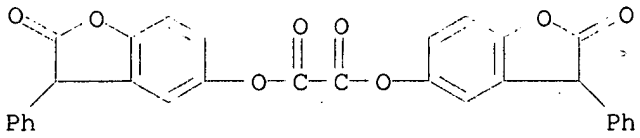
IT 157462-65-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and hydrolysis or condensation of, with aroms.)

IT 83026-12-4P, Diethyl (2,5-dimethylphenyl)hydroxymalonate
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and hydrolysis-decarboxylation of)

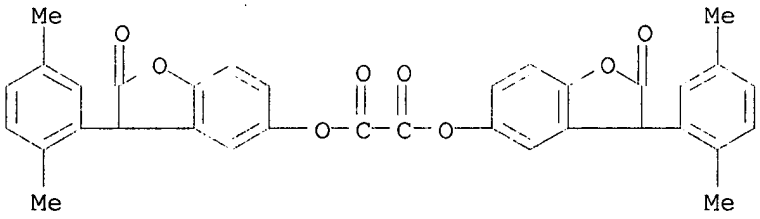
IT 79694-10-3P 79694-17-0P 79694-30-7P 79694-31-8P 105175-34-6P
129550-90-9P 129551-23-1P 140164-70-1P 146509-75-3P 157462-61-8P
157462-62-9P 157462-64-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as dye or intermediate)

IT 157462-43-6P 157462-44-7P 157462-47-0P 157462-49-2P 157462-50-5P
157462-52-7P 157462-60-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as intermediate)

IT 157462-53-8
RL: RCT (Reactant)
(prepn.and esterification of, with phenol)
IT **157462-57-2P 157462-59-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and cyclization of)
RN 157462-57-2 HCAPLUS
CN Ethanedioic acid, bis(2,3-dihydro-2-oxo-3-phenyl-5-benzofuranyl) ester (9CI) (CA INDEX NAME)



RN 157462-59-4 HCAPLUS
CN Ethanedioic acid, bis[3-(2,5-dimethylphenyl)-2,3-dihydro-2-oxo-5-benzofuranyl] ester (9CI) (CA INDEX NAME)



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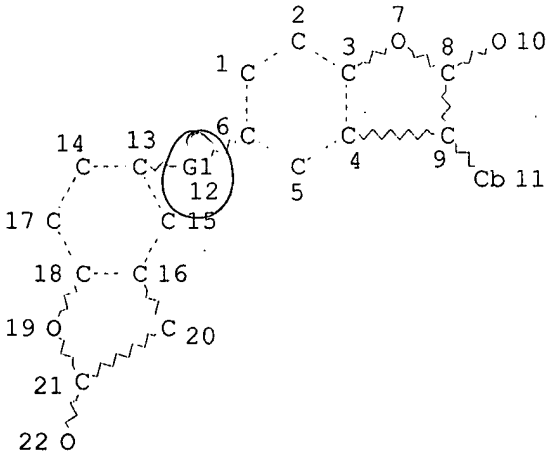

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NODE ATTRIBUTES:
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DEFAULT ECLEVEL IS LIMITED

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11 structures from query

GRAPH ATTRIBUTES:
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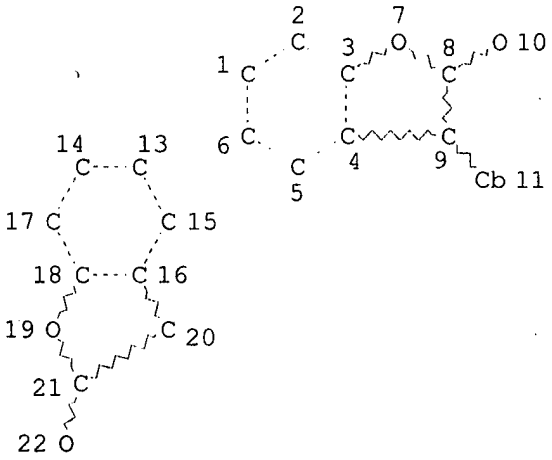
NUMBER OF NODES IS 22

STEREO ATTRIBUTES: NONE
L8 STR



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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE
L10 75 SEA FILE=REGISTRY SSS FUL L8
L11 25 SEA FILE=HCAPLUS ABB=ON L10
L12 2 SEA FILE=HCAPLUS ABB=ON L11 AND PHOTOGR?/SC,SX
L14 11 SEA FILE=REGISTRY SUB=L10 SSS FUL L6
L15 5 SEA FILE=HCAPLUS ABB=ON L14
L16 3 SEA FILE=HCAPLUS ABB=ON (L15 OR L12) NOT L12

3 additional CA references – no utility specified.

=> d l16 1-3 all hitstr

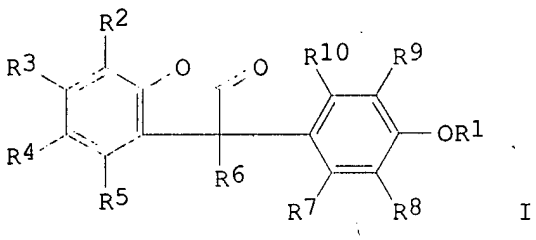
L16 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2002 ACS
AN 1994:436914 HCAPLUS
DN 121:36914
TI 3-(4-Alkoxyphenyl)-2-benzofuranones, compositions containing them, and their use as stabilizers
IN Nesvadba, Peter
PA Ciba-Geigy A.-G., Switz.
SO Ger. Offen., 37 pp.
CODEN: GWXXBX
DT Patent
LA German
IC C07D307-83; C07D307-86; C07D307-92; C07B063-04; C07F009-30
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 27
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI	DE 4316876	A1	19931125	DE 1993-4316876	19930519
	NL 9300784	A	19931216	NL 1993-784	19930507
	GB 2267088	A1	19931124	GB 1993-9665	19930511
	GB 2267088	B2	19960124		
	US 5367008	A	19941122	US 1993-64186	19930517
	CA 2096486	AA	19931123	CA 1993-2096486	19930518
	FR 2691470	A1	19931126	FR 1993-5960	19930518
	FR 2691470	B1	19950210		
	BE 1006730	A4	19941129	BE 1993-513	19930518
	JP 06287185	A2	19941011	JP 1993-140217	19930519
PRAI	CH 1992-1654		19920522		

OS MARPAT 121:36914

GI



I

AB The stabilizers (I, R1 = C1-25-alkyl, org. group; R2-5 = H, C1-25-alkyl, org group, R2R3 or R4R5 = benzo; R6-R10 = H, org group) are obtained for use as antioxidants of light or heat stabilizers for org. compds. Thus, 2,4-di-tert-butylphenol was cyclocondensed with 4-ethoxymandelic acid to give I (R = Et, R2 = R4 = tert-Bu; R3 = R5 = R6 = R7 = R8= R9 = R10 = H), a stabilizer for polyethylene and polyether-polyurethane foam.

ST benzofuranone alkoxyphenyl stabilizer; heat stabilizer alkoxyphenylbenzofuranone; light stabilizer alkoxyphenylbenzofuranone; antioxidant alkoxyphenylbenzofuranone

IT Antioxidants
Heat stabilizers
Light stabilizers
(benoxyphenylbenzofuranones, prepn. of, for polymers)

IT Rubber, butadiene-styrene, miscellaneous
RL: PREP (Preparation)
(block, star-block, stabilizers for, prepn. of alkoxyphenylbenzofuranones as)

IT Urethane polymers, miscellaneous
RL: PREP (Preparation)
(polyether-, block, stabilizers for, prepn. of alkoxyphenylbenzofuranones as)

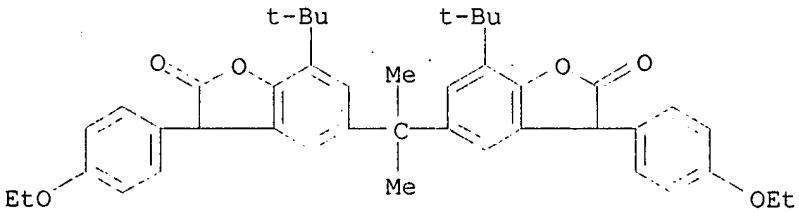
IT 3282-30-2
RL: USES (Uses)
(condensation of, with (ethoxyphenyl)hydroxybenzofuranone)

IT 69322-01-6
RL: RCT (Reactant)
(condensation of, with alkyl bromides)

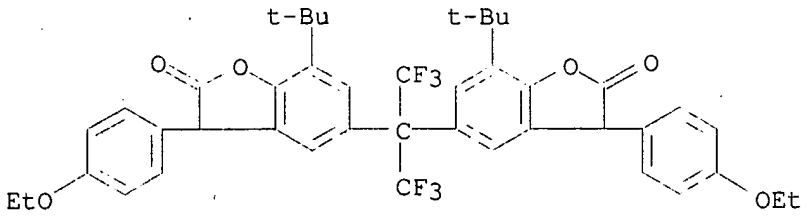
IT 100304-49-2
RL: USES (Uses)
(condensation of, with dialkyl sulfates)

IT 96-76-4, 2,4-Di-tert-butyl-phenol
RL: USES (Uses)

(condensation of, with ethoxymandelic acid)
IT 100-44-7, Benzyl chloride, reactions
RL: RCT (Reactant)
(condensation of, with hydroxymandelic acid)
IT 298-12-4, Glyoxylic acid
RL: RCT (Reactant)
(condensation of, with phenols)
IT 79694-14-7, 4-Ethoxymandelic acid
RL: USES (Uses)
(condensation with, with phenols)
IT 147273-32-3P 147273-35-6P 155061-68-0P 155811-15-7P 155811-16-8P
155811-17-9P 155811-18-0P 155811-19-1P 155811-20-4P 155811-21-5P
155811-22-6P 155811-23-7P 155811-24-8P 155811-25-9P 155811-26-0P
155811-27-1P 155811-28-2P 155811-29-3P 155811-30-6P 155811-31-7P
155811-32-8P 155811-33-9P 155811-34-0P 155811-35-1P 155811-36-2P
155811-37-3P 155811-38-4P 155811-39-5P 155811-40-8P
155811-41-9P 155811-42-0P 155811-43-1P 155811-44-2P
155811-45-3P 155811-46-4P 155811-47-5P 155811-48-6P
155811-49-7P 155811-50-0P 155811-51-1P
RL: PREP (Preparation)
(prepn. of, as stabilizers for polymers)
IT 33330-85-7P, 4-Hydroxy-3-methylmandelic acid 147166-58-3P 151453-11-1P
155061-69-1P 155061-70-4P 155061-71-5P 155811-52-2P 155811-53-3P
155811-54-4P 155811-55-5P 155811-56-6P 155811-57-7P 155811-58-8P
155811-59-9P
RL: PREP (Preparation)
(prepn. of, in synthesis of benzofuranones)
IT 155811-60-2
RL: USES (Uses)
(prepn.of, as stabilizers for polymers)
IT 106107-54-4
RL: USES (Uses)
(rubber, block, star-block, stabilizers for, prepn. of alkoxyphenylbenzofuranones as)
IT 9002-88-4, Lupolen 5260Z 25085-53-4, Profax 6501 155811-13-5
RL: USES (Uses)
(stabilizers for, prepn. of alkoxyphenylbenzofuranones as)
IT **155811-41-9P 155811-49-7P**
RL: PREP (Preparation)
(prepn. of, as stabilizers for polymers)
RN 155811-41-9 HCAPLUS
CN 2(3H)-Benzofuranone, 5,5'-(1-methylethylidene)bis[7-(1,1-dimethylethyl)-3-(4-ethoxyphenyl)- (9CI) (CA INDEX NAME)



RN 155811-49-7 HCAPLUS
CN 2(3H)-Benzofuranone, 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[7-(1,1-dimethylethyl)-3-(4-ethoxyphenyl)- (9CI) (CA INDEX NAME)

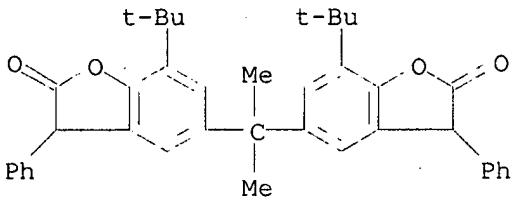


L16 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2002 ACS
AN 1993:23219 HCAPLUS
DN 118:23219
TI Stabilizing polyolefins against thermal, oxidative, and actinic radiation degradation
IN Hofmann, Peter; Zweifel, Hans; Meier, Hans Rudolf
PA Ciba-Geigy A.-G., Switz.
SO Ger. Offen., 23 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM C08L023-02
ICS C08L009-00; C08K005-353; C08K005-51; C08J003-20; C08J007-04
ICA C08K005-13; C08J005-00; C08J005-18
ICI C08L023-02, C08L023-06, C08L023-12, C08L023-20; C08K005-51, C08K005-524, C08K005-5393, C08K005-5399; C09J011-06, C09J123-02, C09J109-00
CC 37-6 (Plastics Manufacture and Processing)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4202276	A1	19920813	DE 1992-4202276	19920128
	GB 2252325	A1	19920805	GB 1992-1705	19920127
	CA 2060276	AA	19920801	CA 1992-2060276	19920129
	FR 2672292	A1	19920807	FR 1992-1005	19920130
	JP 05065371	A2	19930319	JP 1992-40407	19920130
PRAI	CH 1991-289		19910131		

OS MARPAT 118:23219
AB Polyolefins are stabilized against the title degrdn. by 0.01-2% phosphites, phosphonites, or their aza analogs and 0.0001-0.015% .gtoreq.1 benzofuran-2-one derivs. Thus, polyethylene contg. 0.05 phr pentaerythritol tetrakis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate], 100 ppm 5,7-di-tert-butyl-3-phenylbenzofuran-2-one, and 900 ppm tris(2,4-di-tert-butylphenyl) phosphite exhibited a rapid increase in torque after stirring 20 min at 220.degree. and 50 rpm.
ST polyolefin heat stabilizer; phosphonite stabilizer polyolefin; phosphite tertiary butylphenyl stabilizer polyethylene; tertiary butylphenyl benzofuranone stabilizer polyethylene; light stabilizer polyolefin; antioxidant polyolefin
IT Heat stabilizers
Light stabilizers
(benzofuranone derivs. and phosphorus compds., for polyolefins)
IT Alkenes, polymers
RL: USES (Uses)
(polymers, stabilizers for, benzofuranone derivs. and phosphorus compds. as)
IT 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-17-2, Polybutadiene 9003-27-4, Polyisobutylene 9003-28-5, Poly(1-butene) 9003-31-0, Polyisoprene
RL: USES (Uses)

(stabilizers for, benzofuranone derivs. and phosphorus compds. as)
IT 26741-53-7 31570-04-4, Tris(2,4-di-tert-butylphenyl) phosphite
38613-77-3 80693-00-1 118337-09-0 126050-54-2 145130-78-5
RL: USES (Uses)
(stabilizers, contg. benzofuranone derivs., for polyolefins)
IT 55022-25-8 66737-86-8 75869-37-3 145130-79-6 145130-80-9
145130-81-0 **145130-82-1**
RL: USES (Uses)
(stabilizers, contg. phosphorus compds., for polyolefins)
IT **145130-82-1**
RL: USES (Uses)
(stabilizers, contg. phosphorus compds., for polyolefins)
RN 145130-82-1 HCAPLUS
CN 2(3H)-Benzofuranone, 5,5'-(1-methylethylidene)bis[7-(1,1-dimethylethyl)-3-phenyl- (9CI) (CA INDEX NAME)



L16 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2002 ACS
AN 1981:16620 HCAPLUS
DN 94:16620
TI Benzofuran-2-one or indolin-2-one compounds as stabilizers of polymers
IN Mayerhoefer, Horst; Schneider, Hermann; Hinsken, Hans; Mueller, Wolfgang
PA Sandoz A.-G., Switz.
SO PCT Int. Appl., 60 pp.
CODEN: PIXXD2
DT Patent
LA German
CC 36-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 27
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 8001566	A1	19800807	WO 1980-CH17	19800205
W: AT, BR, CH, DE, JP, NL, NO, SE				
BE 881495	A1	19800801	BE 1980-9708	19800201
BE 881496	A1	19800801	BE 1980-9709	19800201
GB 2042562	A	19800924	GB 1980-3483	19800201
GB 2042562	B2	19830511		
GB 2044272	A	19801015	GB 1980-3482	19800201
GB 2044272	B2	19830316		
US 4325863	A	19820420	US 1980-118054	19800204
US 4338244	A	19820706	US 1980-118011	19800204
CA 1134094	A1	19821019	CA 1980-345017	19800204
CA 1150257	A1	19830719	CA 1980-345018	19800204
FR 2449106	A1	19800912	FR 1980-2418	19800205
FR 2449106	B1	19860905		
NL 8020018	A	19801128	NL 1980-20018	19800205
ES 488290	A1	19801216	ES 1980-488290	19800205
JP 55501181	T2	19801225	JP 1980-500338	19800205
JP 63026771	B4	19880531		

	FR 2464278	A1	19810306	FR 1980-2417 19800205
	FR 2464278	B1	19831118	
	CH 645908	A	19841031	CH 1980-7495 19800205
	CH 647773	A	19850215	CH 1983-5598 19800205
	DE 3030673	C1	19920806	DE 1980-3030673 19800205
	AT 8009007	A	19870115	AT 1980-9007 19800807
	AT 383816	B	19870825	
	FR 2460943	A1	19810130	FR 1980-20309 19800922
	FR 2460943	B1	19831125	
	SE 8006932	A	19801003	SE 1980-6932 19801003
	SE 443570	B	19860303	
	SE 443570	C	19860612	
	NO 8002930	A	19801003	NO 1980-2930 19801003
	BR 8006453	A	19801230	BR 1980-6453 19801003
	FR 2464261	A1	19810306	FR 1980-21217 19801003
	FR 2464261	B1	19840210	
	US 4611016	A	19860909	US 1981-335066 19811228
PRAI	CH 1979-1104		19790205	
	CH 1979-8793		19790928	
	US 1980-118054		19800204	
	CH 1980-7495		19800205	
	WO 1980-CH17		19800205	

AB Substituted benzofuran-2-ones (I) and/or indolin-2-ones (II) and their bis derivs., useful as stabilizers for polymers, are prepd. and contain, in the 3 position, .gtoreq.1 H atom or an org. moiety bound by a double bond to the ring. I which are unsubstituted in the 3-position contain no tert-butyl-hindered OH in the 5-position. II have no acetamido substituents in position 3. The 3-acylbenzofuran-2-ones are not used with halogenated polymers. Thus, heating 15.2 g mandelic acid [90-64-2] at 20.6 g 2,4-di-tert-butylphenol [96-76-4] under N at 185.degree. for 20 h gave 5,7-di-tert-butyl-3-phenyl-2(3H)-benzofuran-1-one (III) [66737-86-8]. A compn. contg. PVC [9002-86-2] 100, octyl stearate 1, Ba-Cd stabilizer 1.5, III 1, and aryl alkyl phosphates 0.5 was homogenized in a fluid mixer to 110.degree., roll milled at 180.degree., and pressed at 20 atm to 1-mm thick test panels, which were heated 30 min at 180.degree. in a recirculating drying oven without causing discoloration. A control without III was strongly discolored by heating under these conditions.

ST stabilizer polymer indolinone; antioxidant benzofuranone polymer; discoloration prevention PVC benzofuranone; heat stabilizer polymer indolinone

IT Antioxidants
Heat stabilizers
Light stabilizers
(benzofuranones and indolinones, for polymers)

IT Discoloration prevention
(of PVC, benzofuranones for)

IT Ring closure and formation
(of phenolic compds., in manuf. of indolineones and benzofuranones)

IT Rubber, butadiene-styrene, uses and miscellaneous
RL: USES (Uses)
(stabilizers for, benzofuranones and indolinones as)

IT 122-39-4, reactions
RL: RCT (Reactant)
(reaction of, with chlorophenylacetyl chloride)

IT 5285-31-4
RL: RCT (Reactant)
(reaction of, with cyclohexanone)

IT 2912-62-1
RL: RCT (Reactant)

(reaction of, with diphenylamine)
IT 100-20-9
RL: RCT (Reactant)
(reaction of, with hydroxyphenyl-substituted benzofuranones)
IT 80-05-7, reactions 88-18-6 89-86-1 90-43-7 92-69-3 95-48-7, reactions 96-76-4 98-54-4 99-76-3 99-96-7, reactions 105-67-9 106-44-5, reactions 108-39-4, reactions 108-46-3, reactions 108-68-9 108-95-2, reactions 120-95-6 131-56-6 135-19-3, reactions 150-19-6 497-39-2 585-34-2 5875-45-6 42933-23-3 75379-04-3 75869-52-2 75869-54-4
RL: RCT (Reactant)
(reaction of, with mandelic acid)
IT 90-64-2
RL: RCT (Reactant)
(reaction of, with phenols)
IT 108-94-1, reactions 623-27-8
RL: RCT (Reactant)
(reaction of, with piperidinium benzoate)
IT 32857-07-1 75869-53-3
RL: RCT (Reactant)
(reaction of, with potassium cyanide, potassium iodide, and water)
IT 9002-86-2 9002-88-4 9003-07-0 9003-56-9 9010-79-1 25038-59-9, uses and miscellaneous
RL: USES (Uses)
(stabilizers for, benzofuranones and indolinones as)
IT 3117-37-1 3335-97-5 3456-79-9 3778-52-7 4645-16-3 6670-63-9
23210-25-5 31617-41-1 37884-12-1 39531-24-3 50341-19-0
50341-26-9 54440-45-8 55022-25-8 62743-93-5 65425-10-7
66737-86-8 75846-31-0 75846-32-1 75846-33-2 75846-34-3
75846-35-4 75846-36-5 75846-37-6 75846-38-7 75846-39-8
75846-40-1 75846-41-2 75846-42-3 75846-43-4 75846-44-5
75846-45-6 75846-46-7 **75846-47-8 75846-48-9**
75846-49-0 75846-50-3 75846-51-4 75846-52-5 75846-53-6
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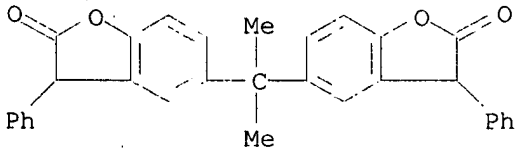
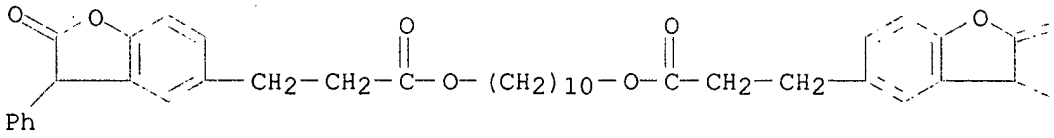
75846-59-2 75846-60-5 75852-21-0 75869-31-7 75869-32-8
75869-33-9 75869-34-0 75869-35-1 75869-36-2 75869-37-3
75869-38-4 75869-39-5 75869-40-8 75869-41-9 75869-42-0
75869-43-1 75869-44-2 75869-45-3 75869-46-4 75869-47-5
75869-48-6 75869-49-7 75869-50-0 75869-51-1 75997-40-9
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(stabilizers, for polymers)
IT **75846-47-8 75846-48-9 75869-43-1**
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(stabilizers, for polymers)
RN 75846-47-8 HCAPLUS
CN 2(3H)-Benzofuranone, 5,5'-(1-methylethylidene)bis[3-phenyl- (9CI) (CA INDEX NAME)



RN 75846-48-9 HCAPLUS
CN 5-Benzofuranpropanoic acid, 2,3-dihydro-2-oxo-3-phenyl-, 1,10-decanediyl ester (9CI) (CA INDEX NAME)

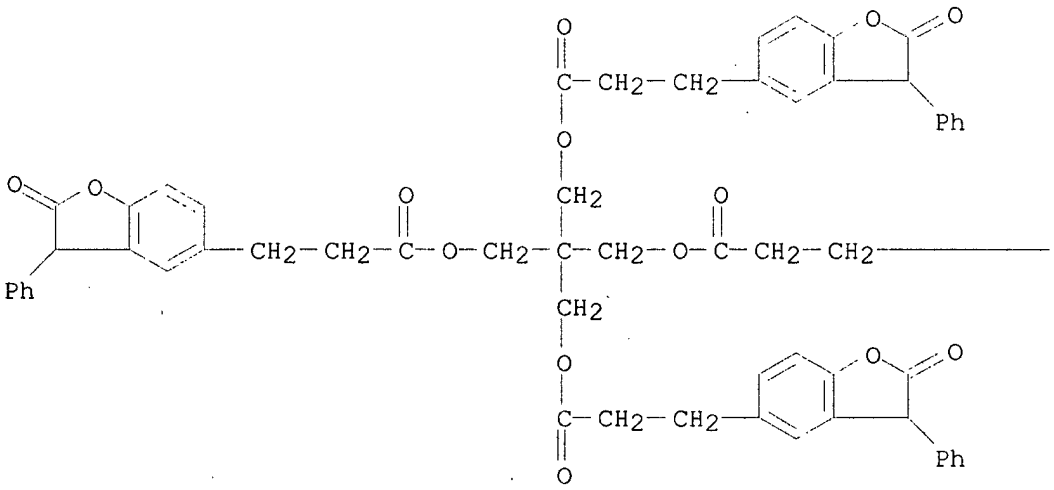
PAGE 1-A



PAGE 1-B

RN 75869-43-1 HCAPLUS
CN 5-Benzofuranpropanoic acid, 2,3-dihydro-2-oxo-3-phenyl-, 2,2-bis[[3-(2,3-dihydro-2-oxo-3-phenyl-5-benzofuranyl)-1-oxopropoxy]methyl]-1,3-propanediyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B